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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/471,659	12/24/1999	LLOYD D. CLARK JR.	59.0021	7775

26751 7590 12/10/2002

SCHLUMBERGER AUSTIN TECHNOLOGY CENTER  
ATTN: PEHR B. JANSSON, INTELLECTUAL PROP LAW DEPT.  
8311 NORTH FM 620  
AUSTIN, TX 78726

EXAMINER

ODOM, CURTIS B

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 12/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/471,659

Applicant(s)

CLARK ET AL

Examiner

Curtis B. Odom

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 December 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-26 is/are allowed.
- 6) ☒ Claim(s) 1-3, 20 and 27 is/are rejected.
- 7) ☒ Claim(s) 4-19, 28 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: On page 4, line 17, the phrase "Another aspect of invention" is suggested to be changed to "Another aspect of the present invention". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1-3, 20 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Gardener et al (U.S. Patent No. 5, 365, 229).

Regarding claim 1, Gardener et al. discloses a telemetry system for transmitting well-logging data from at least one downhole tool to a surface data acquisition system, the at least one downhole tool having a first tool data input/output interface, the telemetry system comprising:

a down hole telemetry cartridge (Fig. 1, block 17) connected to at least one down hole tool (Fig. 1, block 14) via a second tool data input/output interface (Fig. 1, block 16) connected to the first tool data input/output interface, wherein the downhole telemetry receives a bitstream for the at least one downhole tool over the second input/output interface (column 1, lines 64-67) and comprising:

a transmitter (Fig. 1, block 17 and Fig. 2, column 3, lines 10-15) connected to the second tool data input/output interface, and

having a logic operable to cause transmission of the bitstream as analog signals on a plurality of carrier frequencies (column 1, lines 33-40 and column 3, lines 10-15), wherein multilevel data coding requires multilevel signals which can require multi-carrier modulation;

an uphole telemetry unit (Fig. 1, block 10) connected to the surface data acquisition system via an acquisition computer interface (Fig. 1, block 29) and comprising:

a receiver (Fig. 1, block 28 and Fig. 3, column 3, lines 16-23) connected to the surface data acquisition system having logic operable to receive the analog signals on the plurality of carrier frequencies, to demodulate the received signals into a bit stream and to output the bit stream to the acquisition computer via the acquisition computer interface; and

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a wireline cable (Fig. 1, block 11, column 3, lines 24-32) providing an electrical connection between the downhole telemetry cartridge and the uphole telemetry unit, wherein the analog signals are transmitted in an uphole direction on the wireline cable.

Regarding claim 2, Gardener et al. discloses the telemetry system of claim 1, wherein the downhole telemetry cartridge is integrated into one of the at least one downhole tool (Fig. 2, column 2, lines 29-30).

Regarding claim 3, Gardener et al. discloses the telemetry system of claim 1, wherein the downhole telemetry cartridge further comprises a sample clock operating at a sampling rate within the range of 300 kHz to 500 kHz (column 6, lines 16-23 and column 7, lines 21-25), wherein the uphole receiver contains a clock recovery circuit, therefore, the downhole cartridge must contain a clock which operates at the system frequency of 360 kHz, which is between 300 kHz and 500 kHz.

Regarding claim 20, Gardener et al. discloses the telemetry system of claim 1, wherein the downhole telemetry cartridge is constructed from components capable of operation at temperatures above 150 degrees Celsius (column 3, lines 51-64).

Regarding claim 27, Gardener et al. discloses a method of operating a well-logging telemetry system having a downhole telemetry cartridge and an uphole telemetry unit connected by a wireline cable, comprising:

modulating (column 3, lines 10-15) the bit stream onto a plurality of carrier frequencies;  
transmitting (column 2, lines 64-67) the modulated bit stream of a first propagation mode from the downhole telemetry cartridge to the uphole telemetry unit; and

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operating (column 3, lines 16-23) the uphole telemetry unit to demodulate the received bitstream.

*Allowable Subject Matter*

5. Claims 4-19, 28, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 21-26 are allowable over prior art because prior art does not disclose a well-logging telemetry system which uses an SNR ratio to determine a signal point constellation and adjusts the power level of carriers to optimize data rate in the system.

*Conclusion*


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis B. Odom whose telephone number is 703-305-4097. The examiner can normally be reached on Monday- Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6743 for regular communications and 703-308-6743 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Curtis Odom  
November 20, 2002



**STEPHEN CHIN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**